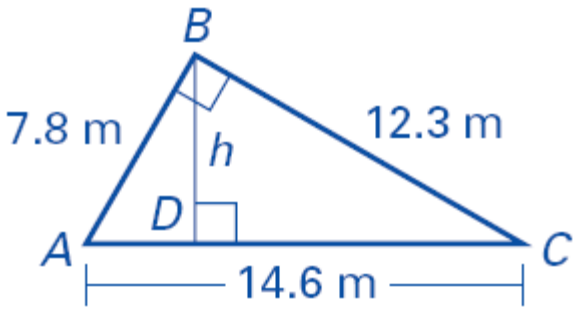
Geometry **9.1 Notes: Similar Right Triangles (pp 527-530)**

Examples: A roof has a cross section that is a right triangle. The diagram shows the approximate dimensions of this cross section.



1. Identify the similar triangles in the diagram.

2. Find the height h of the roof.

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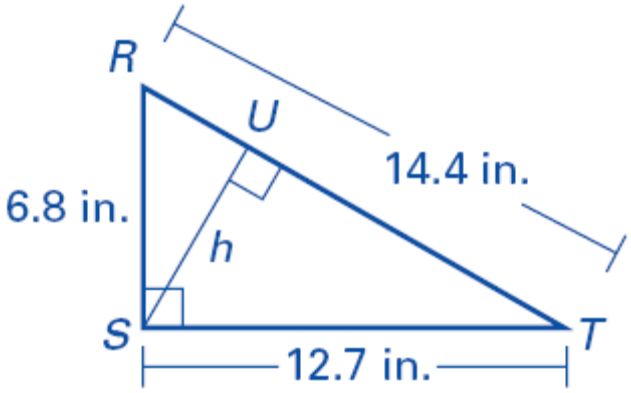
<u>Guided Practice</u>: The diagram shows the approximate dimensions of a right triangle.

1. Identify the similar triangles in the diagram.



2. Find the height h of the triangle.

<u>Geometric Mean Formulas</u>

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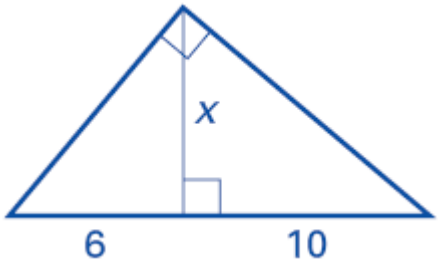
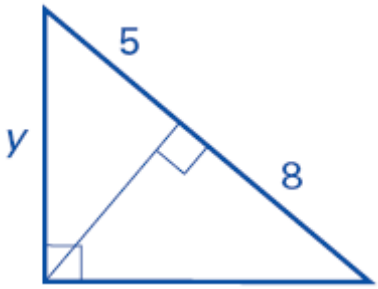
<u>Examples</u>: Find the value of each variable.

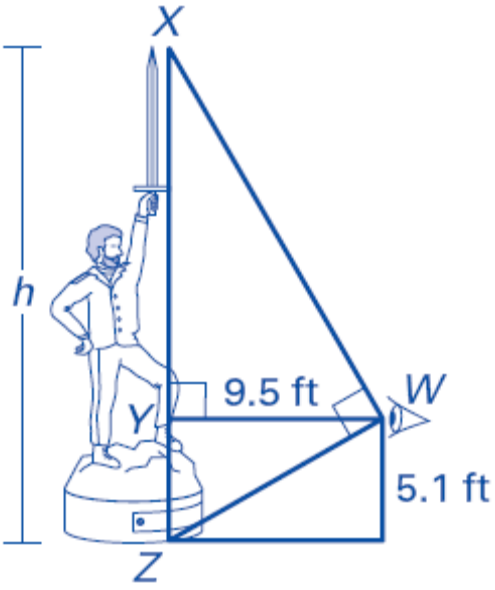
3.



4.



5. To estimate the height of a statue, your friend holds a cardboard square at eye level. She lines up the top edge of the square with the top of the statue and the bottom edge with the bottom of the statue. You measure the distance from the ground to your friend's eye and the distance from your friend to the statue. In the diagram, XY = h – 5.1 is the difference between the statue height *h* and your friend's eye level. Solve for *h*.



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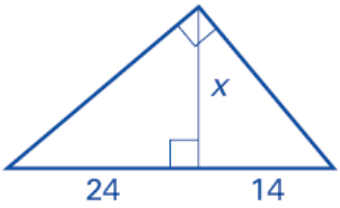
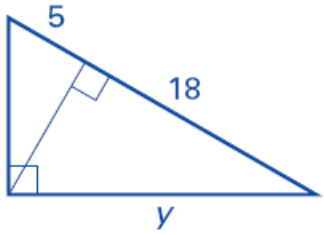
Guided Practice.

6.



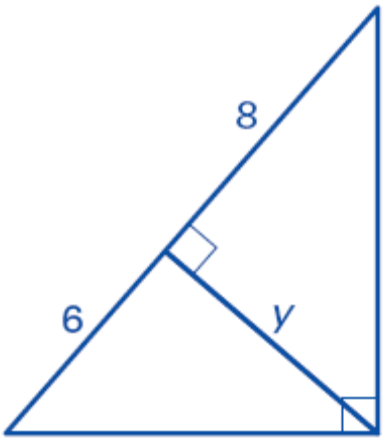
7.

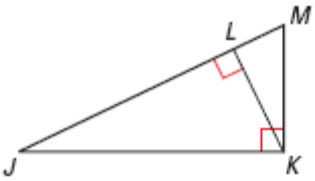


8. $\overline{CD}$ is the altitude to the hypotenuse of $\triangle ABC$ with right angle C. State three pairs of similar triangles.

9. _____ Find the value of *y*. Round to the nearest hundredth.

A. 1.33
B. 4.57
C. 6.93
D. 9.17
E. 10.58





Use $\triangle JKL$ to answer the following questions.

10. In the diagram, *KL* is the ___?____ of *ML* and *JL*.

11. Complete the following statement: $\triangle JKL \sim \triangle$_____ $\sim \triangle$_____

12. Which segment's length is the geometric mean of *ML* and *MJ*?